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THE BEAN BAG

Current Research on Legumes

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FROM THE EDITORS. With this issue we inaugurate an expanded column: RECENT (POST 1975) LEGUME LITERATURE. In addition to citations submitted by our readers, we are selecting citations from a United States Department of Agriculture computer literature search program that uses as its data-base tapes from Biological Abstracts (including Bio Research Index), Chemical Abstracts, Engineering Index, the U. S. National Agricultural Library Index (CAIN), Food Science and Technology, Abstracts, Government Reports Announcements (U. S. Department of Commerce), World Textile Abstracts, and the full file of the Commonwealth Agricultural Bureau (CAB).

The computer is programed to search the data-bank for information on legume genera. The names of genera come from three sources--Caesalpinioideae from Harborne et al "Chemotaxonomy of the Leguminosae; Faboideae from a list by Roger Polhill; and the Mimosoideae from Hutchinson's "The Genera of Flowering Plants." Initial outputs are screened for appropriateness for inclusion in the BB, the principal criterion being whether or not the subject matter appears to have significance, in the broadest sense, to legume systematists. We will continue to list readers' publications that are submitted on the Data Collection Forms, which meet the same principal criterion. We regret that papers whose title indicates they are principally on agricultural topics (important as that is) or on other non-taxonomic (sensu lato) subjects will not be cited. We have not yet adopted a standard form for citing papers; rather we are presenting such data as they come to us.

We hope the new, expanded coverage of literature will be helpful--your comments and suggestions always are welcome.

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CHANGE OF ADDRESSES - You may wish to record these changes in earlier issues.

ALTSCHUL, Siri von Reis, 1107 Fifth Avenue, 3-N, New York, New York 10028, USA. (BB-1, page 4).

BÄSSLER, M. should read Späthstrasse 80, 1195 Berlin, DDR. (BB-4, page 3).

GILL, L. S., Department of Biological Sciences, University of Benin, P.M.B. 1154, Benin City, Nigeria. (BB-2, page 3).

JANZEN, Daniel H., Department of Biology, Leidy Laboratories G-7, University of Pennsylvania, Philadelphia, Pennsylvania 19104, USA. (BB-1, page 6).

KANIS, A., Herb. Australiense, C.S.I.R.O., Box 1600, Canberra City, A.C.T. 2601, Australia.

't MANNETJE, L. should read CSIRO, Cunningham Laboratory. (BB-2, page 3).

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ADDITIONS TO BEAN BAG READERSHIP. (Please save this list as well as those in BB-1-4 for your future use. The May 1978 issue of the Bean Bag will contain a single alphabetical list of all BB readers along with their titles, addresses, and specialties.)

BAHADUR, B., Kakatiya University, Warangal - 506009, India. (Pulses).

BAINBILOV, T., Djisak State Pedagogical Institute, Djisak, 708017, Tselinogrodskaya Strit, 4 Usbek, SSR, U.S.S.R. (*Onobrychis* cytotaxonomy).

BARBOSA, C., Instituto de Ciencias Naturales, Universidad Nacional, Apartado 7495, Bogotá, Colombia. (Galegeae of Colombia).

BARBOSA, Vania P., Jardim Bot. do Rio de Janeiro, Rua Jardim Bot. 1008, 20000, Rio de Janeiro ZC-20-GB, Brazil.

CLARK, E. A., Department of Agronomy, Iowa State University, Ames, Iowa 50011, USA. (Competition between *Zea mays* and *Phaseolus vulgaris* - study to be conducted at CIAT, Cali, Colombia.)

CLEMENTS, R. J., CSIRO, Cunningham Laboratory, Mill Road, St. Lucia, Queensland, Australia 4067. (*Centrosema*).

DELGADO-S, Alfonso, Departmento de Botanica, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico. (*Phaseolus* in Mesoamerica and pollination in *Cassia* spp. in Mexico).

DILCHER, David, Department of Plant Sciences, Jordan Hall 138, Indiana University, Bloomington, Indiana 47401, USA. (Fossil legumes).

FUENTES, Elida C., Museo de Historia Natural, Apartado 1109, Avenida Arenales 1256, Lima, Peru.

HALLARD, J., Vilmorin Research Center, La Menitre 49250 Beaufort-en-Vallee, France. (Pulses).

HIJWEGEN, Tymen, Jr., Department of Phytopathology Agricultural University, Binnenhaven 9, Wageningen, Netherlands. (Co-evolution of pathogens and host-plants).

HYMOWITZ, Theodore, Dept. Agronomy, University of Illinois at Urbana-Champaign, Illinois, 61801, USA. (Genetics of Glycine, Cyamopsis, Psophocarpus).

JOHNSON, C. D., Department of Biological Sciences, Northern Arizona University, Flagstaff, AZ 86001.

KRETSCHMER, A. E., Jr., Institute of Food and Agricultural Sciences, University of Florida, Box 248, Ft. Pierce, Florida 33450, USA. (Legume production and evaluation).

Laboratoire de Botanique Systematique et de Biogeographie, 1 Chemin de L'Imperatrice, 1292 - Chambesy, Switzerland. (Seed chemistry and anatomy).

MATTOS, Nilza, F., Instituto de Botânica, Caixa postal 4005, São Paulo, Brazil.

MIEGE, J., Conservatoire et Jardin botaniques, Case postale, CH-1211, Genève 21, Switzerland.

PIÑEROS, Zulma, Instituto de Ciencias Naturales, Universidad Nacional, Apartado 7495, Bogotá, Colombia. (Hedysareae of Colombia).

SENESSE, Suzanne, Laboratoire de Palynologie, U.S.T.L., Place Eugène Bataillon, 34060, Montpellier Cedex, France. (Pollen of Caesalpinioideae).

SHIVASHANKAR, G., Agricultural College, Hebbal, Bangalore - 560024, India. (Dolichos and Canavalia).

SINHA, Ramkumar, Mithanpura Road, Muzzaffarpur 842002, India.

STAINER, F., Laboratoire de Phytotechnie Tropicale et Subtropicale, Université Catholique de Louvain, Place Croix du Sud, 3 Sc. 15D, 13-1348, Louvain-la-Neuve, Belgium. (Numerical taxonomy of Phaseolinae).

SUSSEX, I. M., Department of Biology, Osborn Memorial Laboratory, Yale University, New Haven, Connecticut 06520, USA. (Phaseolus vulgaris and P. coccineus seed development).

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IDENTIFICATIONS. Following are names of specialists who have expressed willingness to identify legumes and the groups they will accept. Arrangements should be made directly with them, in advance of shipment, using addresses in BB-1-5.

GILL. Crotalaria.

LARSEN and LARSEN. Calsalpiniaceae from Thailand and Bauhinia and Cassia from tropical Asia.

ROBBERTSE. Acacia, Albizia.

SMARTT. Arachis, Phaseolus.

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GLEANINGS FROM DATA COLLECTING SHEETS. For addresses see readers lists in BB-1-5.

BÄSSLER has started a taxonomic revision of the Eurasian species of *Lathyrus* L. sect. Lathyrostylis. (Welcomes seeds and herbarium specimens of all species of *Lathyrus*. Will collect local legume seeds and herbarium specimens.)

BISBY would like to make contact with other workers who hold systematic information on legumes or other plant collections in a computerized information retrieval system. (See Gunn & Seldin in the section on recent legume literature.) He and Adey will study principal pollinators of European Genisteae and the adaptive significance of floral variations within the tribe.

CLEMENTS reports that he and R. J. Williams (from the same laboratory) are working towards a revision of the genus *Centrosema*. "Our work is still at a relatively early stage and will take some years to complete, but we hope to begin a series of contributions to the taxonomy of *Centrosema* within 12 months. Mr. Williams will be visiting Herbaria in the United States during the next 6 months, and we currently hold the Vienna Museum collection of *Centrosema* specimens. Also Mr. R. Reid, of our Townsville Laboratory, is currently collecting *Centrosema* in South America. Our Division has a collection of approximately 200 accessions, mainly *C. pubescens* (about 100 accessions) and *C. virginianum* (60), but including a further 8 species. This collection is being expanded rapidly, but we would welcome seeds of *Centrosema* species from any worker. *Centrosema* is one of the various genera of herbaceous legumes for which this Division maintains a permanent gene bank, as may have been mentioned by Bob Reid (B.B. no. 4, p. 6)."

FORERO sent this note about GENERIC FLORA OF COLOMBIA (Flora Generica de Colombia). "We intend to publish a series similar to the Generic Flora of the Southeastern United States. So far we have six papers almost ready for publication: Chrysobalanaceae, Dichapetalaceae, Sapotaceae, Annonaceae, Verbenaceae and Trigoniaceae, and there are four more in preparation: Ericaceae (in part), Convolvulaceae and the tribes Hedysareae and Galegeae of the Fabaceae."

GREAR has revised *Rhynchosia* in the New World. Sixty taxa are recognized, comprising 52 species and 8 varieties. Four species and four varieties are described as new.

HYMOWITZ writes that 12,000 copies of the US National Academy of Sciences publication on the winged-bean (*Psophocarpus tetragonolobus*) have been sent to all parts of the world. As one consequence, several of those most interested in its potential as an unexploited tropical crop have agreed to distribute an informal newsletter to be called the WINGED BEAN FLYER! The first issue will be mailed in May to a small group of scientists working with this and related species. Financial support has been obtained for collection of winged-bean germ-plasm in Indonesia, Papua, New Guinea, Thailand, Sri Lanka, and Africa.

JANZEN has started these projects: Population biology of *Mora* in the new rain-forest park on the Osa Peninsula of southwestern Costa Rica; population biology of *Hymenaea courbaril* in the same park (Corcovado National Park); feeding of wild Costa Rican legume seeds to laboratory colonies of white rats.

LARSEN and LARSEN have collected legumes on Martinique.

't MANNETJE has completed a revision of *Stylosanthes guianensis*.

MARECHAL is sponsoring two student memoirs: (1) Testing of the efficiency of different *Rhizobium* strains on nodulation of *Phaseolus lunatus* L.; and (2) analysis of cyanhydric acid of different *Phaseolus lunatus* cultivars and wild types by the selective electrode method.

NICHOLLS has initiated a study of geographical variation and chemistry of natural hybrid populations in the Pacific Northwest of *Lupinus sericeus* Pursh and *L. leucophyllus* Dougl. Needs pure samples of C-glycosyl flavones to use as comparative standards.

NORTHINGTON needs (1) seed of all species of *Sophora* preferably vouchered, and (2) names of non-BB readers who might have *Sophora* seed. Seed to be used in isozyme studies in conjunction with investigation of leaflet morphology/anatomy.

REMBERT writes: "I have completed a trip of 12 weeks to England (with 8 days in France) working with Indigofera and the species that were important to commerce. This work was carried out primarily at the Royal Botanic Gardens at Kew with work also accomplished at Museum of wood at Kew, the British Museum of Natural History and Museum National D'Histoire Naturelle in Paris. It seems that of the 300 or so species of Indigo only 9 have been important in commerce." "I would like to have seeds of *Indigofera suffruticosa*, *I. tinctoria*, and *I. arrecta*. I am interested in growing these plants for embryological studies amoung other things."

ROBBERTSE has completed a study of the phylogeny of South African *Acacia* spp. and has started an investigation of their wood; (with P. P. Swartz) of variations of *A. karroo*; and of the morphology of South African *Albizia* spp. He will collect Mimosoideae material on request and will be in the field in South Africa three times each year.

SENESSE has started to study pollen of the Caesalpiniaceae of Madagascar.

SHIVASHANKAR has genetically improved *Dolichos biflorus* and *D. lablab* and is continuing with breeding of arahar, cowpeas, and soybeans and has several breeding projects suitable for graduate students. He needs viable seeds of *D. lablab*, *D. biflorus*, *Canavalia* spp., and other forage legumes. He can supply germplasm and elite cultivars, as well as collections locally.

SMARTT has completed a cytogenetic study of *Arachis hypogaea* and has started a study of experimental production of amphidiploids from sterile diploid F_1 interspecific hybrids of *Arachis*. "My interests are primarily in the improvement of tropical pulses from the plant breeding standpoint primarily. I am interested in their evolution and the use of related wild species as a germplasm resource in their improvement. I have been working since 1953 in this field in the Caribbean, Central Africa, North America and latterly in Britain." Recommends study of cytotaxonomy of Vicieae. Wants seeds of *Vigna*, *Phaseolus*, *Dolichos*, *Lathyrus* (especially *L. sativa*).

STIRTON requests information or reprints (popular scientific) on the following Australian Acacias which are being treated for a Book on "Plant Invaders (escaped exotics) in the Cape Vegetation": *A. mearnsii* DeWild; *A. dealbata* Link.; *A. decurrens* Willd.; *A. saligna* (Labill.) Wendl.; *A. pycnantha* Benth.; *A. longifolia* (And.) Willd.; *A. cyclops* A. Cunn. ex G. Don; *A. melanoxylon* R. Br. *A. baileyana* F. Muell.; *A. elata* A. Cunn. ex Benth. Are the following plants a "pest" in any area outside Australia? I also need information on wherever they occur: *Albizia lophantha* Benth.; *Sesbania punicea* (Cav.) Benth. These are both becoming serious economic weeds in S. Africa.

VIDAL has completed (with Thol) a revision of Asiatic *Caesalpinia* and (with Thol and Hideaux) the taxonomy of Pterolobium including numerical methods applied to macromorphological and palynological characters. He has started a revision of *Peltophorum*. Thol has started a palynological study of *Saraca*. Vidal suggests that *Erythrophleum*, *Dialium*, and *Gleditsia* would be good genera for graduate students. He needs viable seeds of *Caesalpinia* (including *Mezoneuron*), *Peltophorum*, *Pterolobium*, *Gymnocladus*, *Gleditsia*, *Acrocarpus*, *Parkinsonia*, *Delonix*, *Wagatea*.

YAKOVLEV is preparing a manuscript on Fabales for "Plants of Central Asia," edited by Grubov; has reprints of his works with *Luetzelburgia*, *Lecointea*, *Zollernia*, and *Sophoreae*; and has just returned from New Guinea, New Caledonia, and Australia.

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RECENT (POST 1975) LEGUME LITERATURE. When preparing a citation of your published legume paper or legume papers of general interest, please follow the form used in this BB. Use additional key words when needed to supplement the title. Major publications may have brief reviews. For additional information or reprints write to the author or authors whose names are fully capitalized. Their addresses may be found in BB-1-5. Only papers with complete citations will be accepted; citations of papers in press should not be submitted.

ANDERSON, D. M. W. and P. C. Bell. 1976. Partial structural studies of four *Acacia* gum exudates of the series Phyllodineae. Phytochemistry 15(2): 301-303.

BISBY and NICHOLLS. 1977. Effects of varying character definitions on classification of Genisteae (Leguminosae). Bot. Jour. Linn. Soc. 74: 1.

BRAVATO, M. 1974. Morphological study of the fruits and seeds of the Mimosoideae Leguminosae) of Venezuela. Acta Botanica Venezuelana 9(1/4): 317-361.

BRUMMITT and J. H. Ross. 1976. The relationship of *Bauhinia petersiana* and *Bauhinia macrantha* (Leguminosae - Caesalpinioideae). Kew Bull. 30(4): 593-595.

BRUMMITT and J. H. Ross. 1976. A reconsideration of the genus *Adenolobus* (Leguminosae-Caesalpinioideae). Kew Bull. 31(2): 399-406.

Coetzer, L. A., ROBBERTSE and W. F. Reyneke. 1976. Die knoopen blaarsteelmorfologie van die Suid-Afrikaanse verteenwoordigers van die genera *Adenolobus*, *Bauhinia*, *Piliostigma* en *Tylosema*. Journal South African Botany 42(1): 1-12.

Coetzer, L. A., ROBBERTSE and W. F. Reyneke. 1976. Organografie van die blom van die Suid-Afrikaanse verteenwoordigers van die genus *Bauhinia* L. en verwante genera. Tydskrif vir Natuurwetenskap 16(1): 12-23.

CRISTOFOLINI and L. F. Chiapella. 1977. Serological systematics of the tribe Genisteae (Fabaceae). Taxon 26(1): 43-56.

Derbyshire, E. J. N. Yarwood, E. Neat, and D. Boulter. 1976. Seed proteins of *Phaseolus* and *Vigna*. New Phytol. 76: 283-288. [Data related to recent re-classification.]

Filgueiras, T. de S. and E. Silva. 1975. Estudo preliminar do Baru (Leg. Faboideae). Brasil Florestal 6(22): 33.

Filho, H. de F. L. 1974. Contribuição ao estudo taxonômico do gênero Phaseolus L. no Brasil. Bragantia 33(6): 55-63.

FUERTES, A. C. 1974. Las leguminosas del valle del Rimac (subfamilias: Mimosoideae y Caesalpinioideae. Boletin Sociedad Peruana Botanica 7(1-2): 40-68.

Ap 75 7272 Gashimov, D. K. 1975. Study of the genus Astragalus in the high mountain regions of the southern slopes of the Greater Caucasus in Azerbaijan-SSR, USSR. Bot. Zh. (Leningrad) 60(1): 87-95.

GREAR and N. Dengler. 1976. The seed appendage of Eriosema (Fabaceae). Brittonia 28: 281-288.

No 3 Mar 77 Guinet, Ph. and B. Lugardon. 1976. Diversité des structures de l'exine dans le genre Acacia (Mimosoideae). Pollen et Spores 18(4): 483-511.

GUNN and M. J. Seldin. 1977. Preparing seed and fruit characters for a computer with discussion of five useful programs. Seed Science & Technology 5: 1-40. [Description of the use of remote terminals and conversational computer systems with properly prepared documentation sheets. Four major taxonomic programs for comparison, description, identification, and key-construction.]

Gupta, H. P. 1975. History of fossil Leguminosae in India. Geophytology 5(1): 1-9.

Ibrahim, A. M. and D. P. Coyne. 1975. Genetics of stigma shape, cotyledon position, and flower color in reciprocal crosses between Phaseolus vulgaris L. and Phaseolus coccineus Lam. and implications in breeding. Journal American Horticultural Science 100(6): 622-626.

JANZEN, G. A. Rosenthal, and E. L. Dahlman. 1976. A novel means for dealing with L-canavanine, a toxic metabolite. Science 192: 256-258.

JANZEN. 1976. Reduction of Mucuna andreana (Leguminosae) seedling fitness b - artificial seed damage. Ecology 57: 826-828.

No. Jan 77 JANZEN, G. A. Miller, J. Hackforth-Jones, C. M. Pond, K. Hooper, and D. P. Janos. 1976. Two Costa Rican bat-generated seed shadows of Andira inermis (Leguminosae). Ecology 47: 1068-1075.

Kapoor, J. N. and D. K. Agarwal. 1975. Indian species of Ravenelia Part 1 on Acacia. Indian Phytopathology 27(4): 666-669.

Ap 75 3250 Kostrikova, L. N. 1975. Embryology of the genus Amorpha L. in relation to its position in the family Leguminosae. Bull. Bot. Sada 96: 33-37.

Kowalczyk, B. and C. R. Bell. 1975. Pollination ecology of Hedysarum spp., Fabaceae, in the Yukon. Association Southeastern Biologists Bulletin 22(2): 60. [Abstract]

LEE. 1976. The genus Gymnocladus and its tropical affinity. Journal Arnold Arboretum Harvard University 57(1): 91-112.

Lee, D. W., V. H. Yao, and F. Y. Liew. 1975. Lectins in selected Malaysian legumes. Malaysian Journal Science 3: 89-93.

Loureiro, A. A. and W. A. Rodrigues. 1975. Anatomical study of the wood of the genus *Swartzia* (Leguminosae) from Amazonia - I. Acta Amazonica 5(1): 79-86.

LUKOKI. 1976. Distinction entre *Vigna radiata* et *Vigna mungo*. Bulletin Recherches Agronomiques (Gemboux) 10(3): 372-373.

MAHLER. 1976. Pollen morphology of *Dalea* section Theodora (Leguminosae-Psoraleae). Sida 6(4): 328-331.

Mascherpa, J.-M. 1976. Applications des méthodes informatiques à la taxonomie végétale, notamment des Phaseolinae, at aux problèmes biologiques qui lui sont liés. Thèse, Université de Genève, Number 1767.

Misset, M.-T. 1975. Chimie taxonomique des Papilionaceae I. Etude quantitative de 33 espèces. Poids sec et pourcentage d'azote de différentes classes protéiques. Saussurea 6: 187-193. [The attempt has been made to differentiate species of Papilionaceae by some quantitative criteria of seed proteins. The results obtained enable one to partly confirm clusters established by classical systematics as shown on the computer printed dendrograph.]

NORTHINGTON. 1976. Evidence bearing on the origin of infraspecific disjunction in *Sophora gypsophila* (Fabaceae). Plant Syst. Evol. 125(4): 233-244. [Key Words: Disjunction, edaphic endemism, gypsophile, calciphile - Flora of SW N. Am.]

NORTHINGTON, MOREY AND VAN DEVENDER. 1977. Phyletic interpretations from fossil (CA 16,000 BP) remains of *Sophora* in the southwestern United States. Southwestern Naturalist: In Press. [Morphology and internal anatomy of leaflets of section Calia].

Palacios, R. A. and L. D. Bravo. 1974-5. Morphological study of the seeds of *Prosopis*, Part 2: Some North American and tropical species. Darwiniana 19(2-4): 357-372.

Pettigrew, C. J. and L. Watson. 1975. On the classification of Australian Acacias. Australian Journal Botany 23(5): 833-847.

Pettigrew, C. J. and L. Watson. 1975. Taxonomic patterns in amino-acids of *Acacia* seed globulins. Phytochemistry 14(12): 2623-2625. [Amino-acid analyses of seed globulins from 24 Australian *Acacia* species showed a taxonomic pattern involving variation in the proportions of glutamic acid, threonine and valine. The results supported recent taxonomic treatments of the genus and implied that amino-acid patterns could be usefully predictable in other legumes.]

Pettigrew, C. J. and L. Watson. 1977. On the classification of the Caesalpinioideae. Taxon 26(1): 57-64.

Podlech, D. 1975. Revision der sektion Caraganella Bge. der Gattung *Astragalus* L. Mitt. Bot. Staatssamml. Münch. 12: 153-166.

POLHILL. 1976. Genisteae (Adans.) Benth. and related tribes (Leguminosae). Botanical Systematics, vol. 1: 143-368, 12pp. index.

HR

ROBBERTSE. 1975. The genus Acacia in South Africa I - With special reference to the morphology of the stipules and spines. Bothalia 11(4): 473-479.

HR ROBBERTSE. 1975. The genus Acacia in South Africa IV - With special reference to the morphology of the pod. Bothalia 11(4): 481-489.

ROBBERTSE. 1975. The genus Acacia in South Africa VI - The morphology of the leaf. Boissiera 24: 263-270.

No Robertson, K. R. and Y.-T. LEE. 1976. The genera of Caesalpinioideae-Leguminosae in the Southeastern USA. Journal Arnold Arboretum Harvard University 57(1): 1-53.

HR Rodrigues, W. A. 1975. The genus Monopteryx (Leguminosae) from Amazonia. Acta Amazonica 5(2): 153-155.

ST. JOHN. 1976. The flora of Mt. St. Helens, Washington. The Mountaineer (Seattle) 70(7): 65-78. [An account of the ecology and the vascular flora of this mountain in the southern Cascade Mountains, Washington. The checklist includes 315 species, 5 of which are legumes, Cytisus, Lotus, and three Lupinus spp.]

Saleh, N. A. M. and M. S. Ishak. 1976. Anthocyanins of some Leguminosae flowers and their effect on colour variation: Bauhinia variegata, Cassia nodosa, Delonix regia. Phytochemistry 15(5): 835-836.

No 2 SENESSE. 1976. Le pollen des Afzelia Africains (Legumineuses, Caesalpiniaceae). Adansonia, ser. 2, 15(3): 357-378.

No 4 Shaw, E. A. and SCHUBERT. 1976. A reinterpretation of Leucaena and Lysiloma. Journal Arnold Arboretum Harvard University 57(1): 113-118.

SMARTT. 1976. Comparative Evolution of Pulse Crops. Euphytica 25: 139-143.

SMARTT. 1976. Tropical pulses. Longman Group Ltd. 348 pages, ISBNO 582, pound-sterling 12.00. [The successive chapters deal with origins and history, botany, nutritive value, physiology of growth, development and reproduction, mineral nutrition and productivity, cultural practices and crop handling, pest control, disease control, breeding and improvement, and economic importance. Each chapter review the numerous species in the context of the subject under discussion and, although the reader has to skip about to follow the story of one crop, it is scientifically and logically the best way of reviewing the whole field. In any case there is a good index. The treatment throughout is well-balanced and scholarly, although the bibliography reveals relatively few sources published since 1970. The illustrations are adequate; the drawings in the botany and pests section are outstandingly clear. This book is an essential reference book for all who are concerned with tropical food crops.]

No 9 Spellenberg, R. 1976. Title: Chromosome numbers and their cytotaxonomic significance for North American Astragalus (Fabaceae). Taxon 25(4): 463-476.

HR STEENIS. 1975. A review of the genus Sympetalandra Stapf and its position in Caesalpinioideae. Blumea 22(2): 159-167.

Tarlakovskaya, A. N. 1976. The position of *Pisum formosum* (Stev.) Alef. in the tribe Vicieae Bronn. according to data from the immunochemical analysis of the proteins. Byulleten Vsesoyuznogo Ordena Lenina Instituta Rastenievodstva Imeni N. I. Vavilova 42. [An analysis was made of the proteins in the seeds of 80 forms belonging to various species of the genera *Pisum*, *Vicia*, *Lathyrus*, *Lens* and *Cicer*. From the data obtained it is concluded that *P. formosum* is closer to *Lathyrus* than to *Vicia* or *Pisum*. However, it also has protein components in common with *Pisum* and may be an ancestor of both *Lathyrus* and *Pisum*. It is therefore recommended that it be assigned to a separate genus.]

VIDAL and S. H. Thol. 1976. New Asiatic members of the Caesalpiniaceae. Adansonia 15(3): 391-396.

WEDER, and H.-D. Hory. 1976. Trypsin and chymotrypsin inhibitors in Leguminosae. VI. Further properties of the inhibitors from *Phaseolus coccineus*. Chem. Mikrobiol. Technol. Lebensm. 4, 161-169. [Inhibitory activities, inhibition constants, type of inhibition, and molecular weights of 5 inhibitors are given.]

WUNDERLIN. 1976. A new name for an Old World *Bauhinia* (Fabaceae). Taxon 26: 361-362. [Sorry, no reprints available.]

WUNDERLIN. 1976. *Bauhinia lunarioides*: a misapplied name. Rhodora 78: 546-548.

WILBUR, R. L. 1975. A revision of the North American genus *Amorpha* (Leguminosae-Psoraleae). Rhodora 77(811): 337-409.

Zeven, A. C. and P. M. Zhukovsky. 1975. Dictionary of Cultivated Plants and their centres of diversity (excluding ornamentals, forest trees, and lower plants). Centre for Agricultural Publishing and Documentation, P. O. Box 4, Wageningen, Netherlands. US distributor: ISBS, P. O. Box 555, Forest Grove, Oregon 97115. 219 pages, US $21.50. [Species from 12 agricultural megacenters and gene centers are listed with these annotations: scientific name, author, common name, chromosome number, origin, uses, and notes. There are 322 legume entries; some legumes are mentioned more than once.]

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NEWS OF 1978 LEGUME CONFERENCE. (We hope to have other progress reports from prospective contributors to this Conference.)

DUKE reports that good solid criticism and constructive suggestions are coming in from the collaborators on the proposed manual of legumes. A draft was distributed in December. We will welcome any new reprints relating to the agronomy, biology, chemistry, distribution, ecology, etc., of economic legumes, especially the lesser known legumes. We are still seeking legume check-lists and/or yield data tied to climatic data, particularly in tropical and subtropical climates, to eliminate the temperate bias in our computer program for assessing the ecological amplitudes and yields of legumes.

FERGUSON writes "I am on study leave from RBG, Kew for 6 months from January 1977, working with Dr. John Skvarla at the University of Oklahoma, Norman, on the pollen morphology of the Papilionoideae. So far we have superficially examined the pollen morphology of over 300 genera and are now working on some of these in more detail using SEM and TEM techniques. In general, tricoloporate, with reticulate or perforate tectum is the most frequently encountered pollen type though there are a small number of rather interesting and unexpected pollen types in the subfamily. We plan to present our preliminary conclusions at the 1978 Kew Legume Conference. If any workers have unpublished information of significant variation in pollen morphology within any of the genera or if anybody would like information from our results on intra generic variation I would be pleased to communicate with them at my Kew address. The more data we can get together the better the Conference overviews will be!"

GRAHAM (Kent State) and COWAN are collaborating on a survey of pollen morphology in the Caesalpinioideae in preparation for the Conference. Using the light microscope and Scanning Electron Microscope, we are studying at least one species from each genus. Already we have observed and photographed pollen of about 60 genera, mostly from the New World.

For his review of the caesalps at the Conference, Cowan needs as many color photographs of flowers and other parts as can be obtained, especially of African genera. If you are willing to loan 35 mm. transparencies for copying, please write.

GUNN reports that the USDA conversational computer has been data-banked with names of legume genera and tribes (Faboideae after Polhill, private communication; Caesalpinoideae after Heywood in Harborne, Boulter, and Turner; and Mimosoideae after Hutchinson). Documentation sheet tests are currently being conducted. SEM photographs by LaSota will be surveyed by a Wang digitizer to determine if seed shape and surface topography, as well as hilar characters, can be automatically fed into computer. If successful, a large amount of manual observations and input would be eliminated. Another option may be to store holograms in computer for pattern recognition. Legume seeds and fruits (especially if vouchered) are always welcomed, and they will be acknowleged.

POLHILL also needs slides showing details of flowers and more unusual fruits of Papilionoideae (Faboideae).

International Legume Conference 1978. Invitations and notices have been sent out to those who have expressed an interest in the Botanical Sessions. Anyone else interested (or inadvertently overlooked) should contact Dr. R. M. Polhill, Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE, England.

DATA COLLECTION FORM FOR THE BEAN BAG

Last Name, First Name Title

Change of address:

Legume publications (yours or others) since last issue of BB. (Please follow style in a recent BB).

Legume projects completed since last issue of BB:

Legume projects started since last issue of BB:

Suggested legume projects suitable for graduate students:

Needed legume research material and exchange offerings:

Planned field trips:

Personal notes (include any item of general interest to your collegues and comments to the editors):

Legume taxa willing to annotate: